

# INQUA '87

The International Union of Quaternary Research (INQUA) is a broadly based interdisciplinary organization affiliated to the International Union of Geological Sciences. Although loosely allied with many international scientific societies, it is financially independent and supported through direct national contributions from thirty-seven countries. INQUA has held international conferences or congresses about every four years since its founding in 1928, except for the interruption caused by World War II. The Union has eleven commissions and a variety of subcommissions engaged in a wide spectrum of paleo-environmental problems.

INQUA aims to bring together on a worldwide basis scientists concerned with the history of the Earth's natural environment in the Quaternary Period, the roughly two million year interval during and since the glacial Pleistocene Epoch. This organizational objective follows directly from the broad scientific goal of improving our understanding of the processes by which the natural environment has changed. Only with such an historical perspective can we achieve a fundamental understanding of the evolution of the relationship between the human species and the environment and attempt to predict its future course. Accordingly, INQUA involves scientists from many disciplines such as archaeology, botany, climatology, ecology, geochemistry, geography, geology, geomorphology, geophysics, glaciology, hydrology, isotope dating, limnology, oceanography, paleontology, palynology, physical anthropology, soil science, tectonics, volcanology, and zoology.

There are two reasons why it is more important to have an accurate and detailed knowledge of the Quaternary Period than of other portions of earth history. First, it was then that virtually all human cultures and societies evolved. Second, this period has been characterized by environmental changes on a variety of time scales from years to many millennia, and ranging from climatic anomalies marking unusual years or decades, to those widespread environmental displacements accompanying the succession of Pleistocene ice ages. Knowledge about the Quaternary, therefore, has both short- and long-range value related to the energy and environmental problems of today.

To forecast the future of any natural system one should have knowledge of its past behaviour. The activities of INQUA help to establish a natural dynamic baseline against which to evaluate the effect of human activities in causing departures from equilibrium conditions.

Many Quaternary problems must be studied on a global basis. For example, an understanding of the Earth's climate and its fluctuations requires the collaboration of scientists and governments of many nations. This is because any particular climatic state can only be understood as a product of a global system that balances the radiation budget of the entire atmosphere, the oceans, the cryosphere, and the land surface.

I am extremely happy that *Episodes* has agreed to devote this issue to the work of INQUA and Quaternarists in general. What follows is a selection of state-of-the-art summaries of some of the key issues and topics in Quaternary science that will be discussed at the twelfth INQUA Congress, to be held in Ottawa, Canada, from July 31st to August 9th, 1987. Field conferences before and after the scientific sessions will provide a unique international experience for observation and discussion of paleoenvironments in many critical areas.

**N.W. Rutter**  
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*Cover Caption: Fed by the Bylot Island icefield, Arctic Canada, glaciers from valleys with contrasting geology have coalesced, as can be seen from the colours of the prominent morainal stripes. Photo by R.A. Klassen.*

